and lymphatic glands, 2; removal of the whole of the tongue and lymphatic glands, 1; removal of half of the tongue, ligature of the lingual artery in the neck, removal of glands, etc., 10; removal of the whole tongue, ligature of the lingual artery in the neck, etc., 3.

These complicated operations were for the most part recovered from with greater difficulty than the uncomplicated operations. Infiltration took place from the wound in the mouth into the deeper wound in several of them, and in one case in which this occurred the patient was for two or three weeks seriously ill. Since then Butlin has almost invariably drained the lower wound for the first few days after the operation, a precaution which he had seldom previously taken.

In one of these patients, fifty-one years old, hæmorrhage occurred six days after the operation from a deep cavity which had been made in the floor of the mouth, and recurred during three or four days. It was ultimately arrested by thoroughly clearing out the wound to the bottom and plugging it with iodoform gauze. And in a man, aged forty-nine, secondary hæmorrhage set in from the wound in the neck nine days after the operation. The hæmorrhage was arrested also by plugging, and the patient slowly recovered.

The fatal case was that of a man, aged seventy-one, who suffered from an epithelioma of the anterior portion of the left half of the tongue, and associated enlarged glands. Butlin removed the left half of the tongue, the enlarged glands, and tied the lingual artery in the neck. In the course of a day or two the wound in the neck was foul, apparently from the sinking down of discharges into it from the mouth; it had not been drained. The patient had rigors and high temperature. He appeared to improve for a while after the condition of the wound had been bettered, but he finally died five weeks after the operation.—*British Medical Journal*, April 14, 1894.

ABDOMEN.

I. Analysis of Seventy-Eight Cases of Operative Interference with the Gall-Bladder and Bile-Ducts. By A. W.

MAYO ROBSON, F.R.C.S. (Leeds). Among the prominent symptoms and complications of cholelithiasis experienced were:

(1) Spasms or biliary colic without jaundice, the attacks being repeated at longer or shorter intervals, coming on without apparent cause, usually starting in the epigastrium or under the right ribs, and radiating to the right scapular region or to the shoulder, and often ending in vomiting, which usually gave relief.

(2) Collapse, due to the intensity of the pain, which he had known to cause death without any other complication.

(3) Spasms followed by evanescent icterus.

(4) Pain followed by persistent jaundice and enlargement of the liver, which may give rise to the suspicion of malignant disease, but which may usually be diagnosed from cancer by the presence of

(5) Attacks of pain accompanied by a feeling of chilliness or a rigor, and followed by increased temperature and then by profuse perspiration, the whole attack resembling one of ague.

(6) Distention (hydrops) of the gall-bladder without jaundice, ordinarily due to impaction of gall-stones in the cystic duct.

(7) If accompanied by persistent jaundice, distention of the gall-bladder raises a suspicion of malignant disease, either of the liver or bile-ducts or of the head of the pancreas.

(8) Ileus due to atony of the bowel, apparently dependent on the pain, producing a profound impression on the nerves of the abdomen, leading to enormous distention, and to the symptoms and appearance of acute intestinal obstruction.

(9) Acute intestinal obstruction dependent on: (*a*) Paralysis of gut due to local peritonitis in the neighborhood of the gall-bladder. (*b*) Volvulus of small intestine. (*c*) Impaction of large gall-stone in some part of the intestine after ulcerating its way from the bile-channels into the bowel.

(10) General hæmorrhages, the result of long-continued jaundice, either dependent on gall-stones alone or on cholelithiasis associated with malignant disease.

(11) Persistent vomiting, with such serious digestive disturbances as to threaten death from exhaustion.

(12) Localized peritonitis producing adhesions, which may then become a source of trouble even after the gall-stones have all been got rid of. He believes that nearly every attack of biliary colic is accompanied by adhesive peritonitis, as his experience is that in all cases where there have been characteristic seizures adhesions are found.

(13) Dilatations of stomach dependent on adhesions around the pylorus.

(14) Ulceration of the bile-passages establishing a fistula between them and the intestine.

(15) Abscess of the liver.

(16) Localized peritoneal abscess.

(17) Abscess in the abdominal walls.

(18) Fistula at the umbilicus or elsewhere on the surface of the abdomen.

(19) Empyema of gall-bladder.

(20) Suppurative choleangitis.

(21) Septicæmia or pyæmia.

(22) Gangrene of the gall-bladder.

(23) Perforative peritonitis due to ulceration or to rupture of the gall-bladder or ducts.

(24) Extravasation of bile into the general peritoneal cavity.

(25) Pyelitis of the right side.

(26) Cancer of the gall-bladder or of the ducts.

(27) Subphrenic abscess.

(28) Empyema on the right side.

(29) Pneumonia of the lower lobe on the right side.

(30) Chronic invalidism and inability to perform any of the ordinary business or social duties.

Cases complicated with malignant disease are decidedly unfavorable ones for operation. First, because the subjects of cancer are not only as a rule cachectic and worn down by disease before the surgeon is called in, and, therefore, unfitted to bear the shock of any operation; but, secondly, because such patients are particularly prone to

hæmorrhage at the time of operation, or, subsequently, which may be uncontrollable.

Too strong emphasis cannot be laid on the fact that operations undertaken on patients with malignant disease of the head of the pancreas, of the bile-ducts, or of the liver, if combined with deep jaundice, are attended with very great risk; and that in such cases the great risk is not compensated for by the slight respite which may be given by establishing a biliary fistula, as recommended by some able surgeons.

In all the cases of malignant disease with jaundice operated on the gall-bladder formed a perceptible tumor, whereas, when the jaundice was dependent on gall-stones there was no marked tumor present.

The indications for operating are as follows:

(1) In frequently-recurring biliary colic without jaundice, with or without enlargement of the gall-bladder.

(2) In enlargement of the gall-bladder without jaundice, even if unaccompanied by great pain.

(3) In persistent jaundice ushered in by pain, and where recurring pains, with or without ague-like paroxysms, render it probable that the cause is gall-stones in the common duct.

(4) In empyema of the gall-bladder.

(5) In peritonitis, starting in the right hypochondrium.

(6) In abscess around the gall-bladder or bile ducts, whether in the liver or under or over it.

(7) In some cases where, although the gall-stones may have passed, adhesions remain and prove a source of pain and illness.

(8) In fistula, mucous or biliary.

(9) In certain cases of jaundice, with distended gall-bladder dependent on some obstruction in the common duct; but in such cases the increased risk must be borne in mind, as malignant disease will probably be the cause of the obstruction.

Supposing the case to prove a suitable one for cholecystotomy, and the gall-bladder and ducts can be cleared without great difficulty

by means of forceps within, and the fingers outside the ducts, the opening in the gall-bladder can be sutured to the aponeurosis, which he thinks preferable to skin-fixation, and drained, which he infinitely prefers to immediate suture of the opening.

But if the ducts cannot be cleared, what may be done?

(*a*) Cholelithotrity or crushing of the gall-stones *in situ* by means of the finger and thumb, or by padded forceps, an operation which he has successfully performed on numerous occasions, and which he prefers to the more formidable procedure of incising the ducts, or of fixing the gall-bladder to the intestine.

(*b*) Choledochotomy, or incising the duct, whether cystic or common, the incision being afterwards sutured, not an easy matter on account of the depth of the parts to be coaptated, but which he has found to be best effected by means of a rectangular cleft palate needle. A drainage-tube should always be inserted into the right kidney-pouch in such cases.

(*c*) Cholecystenterostomy, or the making of an anastomosis between the gall-bladder and intestine, easily effected if the gall-bladder be dilated, with difficulty performed if the gall-bladder be contracted, as is often the case. He has performed this operation three times, with immediate success and recovery in all, and with complete and permanent relief in two. The method he prefers is that by means of his decalcified bone-bobbin, which enables the operator to accomplish the anastomosis rapidly, as only two sutures have to be employed.

(*d*) The daily injection of fluids after an interval of some days, through the cholecystotomy opening, which will either soften or dissolve the concretions. For this he has used hot water, a solution of taurocholate of soda, ether, and ether and turpentine, with more or less success; but thinks that an injection of olive oil or a 5-per-cent. solution of sapo animalis or oleic acid will be worth more fully trying.

(*e*) Cholecystectomy may be required as a secondary operation in cases of stricture of the cystic duct, the common duct being free.

On three occasions in which he has excised the gall-bladder, it has been for mucous fistula depending on stricture of the cystic duct following on gall-stones, and all the cases were completely and permanently relieved.

Cholecystectomy can seldom be advisable or necessary as a primary operation in gall-stones, and extremely rarely possible in malignant disease. In cholecystotomy, where it is impossible to bring the margins of the incised gall-bladder into the wound, and where the parietal peritoneum cannot be tucked down to meet the edges of the opening, he has made a tube of the omentum, but in such cases no hesitation need be felt in trusting to a drainage-tube, as the peritoneal cavity soon becomes occluded around the drain, and there is little or no tendency to the passage of bile among the viscera, so that a suprapubic drainage opening is quite unnecessary. With very few exceptions he has found a vertical incision along the upper part of the right linea semilunaris to give ample room, but if required he has not hesitated to get further room by a transverse cut in addition.

Suture of peritoneum, aponeurosis, and skin by separate stitches effectually guard against ventral hernia, if the patient be kept recumbent for from twenty-one to twenty-eight days, and if a firm oval pad be worn under a belt for a few months subsequently.—*Brit. Med. Journ.*, April 28, 1894.

II. New Method of Jejunostomy. By Professor ALBERT (Vienna). During the year 1888 two jejunostomies were performed in Professor Albert's clinic. In the first case the patient lived four weeks after the operation; in the second case the patient died of pneumonia on the fourth day. Maydl has performed the operation once, at which time he did a simple lateral jejunostomy,—sewing the gut into the abdominal wound and opening it. In 1892 he published a new method of performing the operation (*Wiener medicinische Wochenschrift*, Nos. 18 and 19, page 742). The loop of jejunum being drawn out through the abdominal wound was divided transversely. The distal end was then drawn out still farther and an opening made